

CONTAINS NO CBI



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EPA-OTS



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90-890000540

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Comprehensive Assessment Information Rule
REPORTING FORM

89 JUL -6 AM 9:31
EPA INFORMATION CONTROL
OFFICE

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: _____

Document
Control Number: _____

Docket Number: _____

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... [1][2] [2][2] [8][8]
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. [] [2] [6] [4] [7] [1] - [6] [2] - [5]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule _____

(ii) Name of mixture as listed in the rule _____

(iii) Trade name as listed in the rule _____

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule _____

CAS No. of chemical substance [] [] [] [] [] [] - [] [] - []

Name of chemical substance _____

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer 1

☐ Importer 2

Processor 3

X/P manufacturer reporting for customer who is a processor 4

X/P processor reporting for customer who is a processor 5

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?
CBI
☐ Yes ☒ Go to question 1.04
☐ No ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.
CBI
☐ Yes 1
☐ No 2

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations
Provide the trade name(s)

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI
☐ Trade name ADIPRENE, CYANAPRENE, VIBRATHANE, ANDUR
Is the trade name product a mixture? Circle the appropriate response.
Yes 1
No 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI
☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

THOMAS H. MAHNKE
NAME

Thomas H. Mahnke
SIGNATURE

6/30/89
DATE SIGNED

VICE-PRESIDENT
TITLE

(414) 248 - 1925
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

CBI

☐

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

N/A

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

☐

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

N/A

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.

1.09 Facility Identification

Other SIC Code[] [] [] []

Employer ID Number[3][9][0][8][4][1][1][1][2]

6

1.11 Parent Company Identification

CBI Name [A][L][B][E][R][T][][T][R][O][S][T][E][L][][&][][S][O][N][S][][C][O][][]

[] Address [1][0][2][0][1] [W] [L] [I] [N] [C] [O] [L] [N] [A] [V] [E] [] [] [] [] []
Street

[W][E][S][T] [A][L][L][I][S] [] [] [] [] [] [] [] [] [] [] [] []
City

WI 53227--
State Zip

Dun & Bradstreet Number $[\overline{0} \mid \overline{0}] - [\overline{6} \mid \overline{0} \mid \overline{8}] - [\overline{1} \mid \overline{1} \mid \overline{2} \mid \overline{9}]$

1.12 Technical Contact

CBI Name [F][R][A][N][K] [][P][A][A][V][O][L][A] [][][][][][][][][][]

[illegible]

Address [9][9][9] [W][E][L][L][S] [S][T] [][][][][][][][][][][][][][][]
Street

[L][A][K][E] [G][E][N][E][V][A] [] [] [] [] [] [] [] [] [] [] [] [] [] [] []
City

[W] [I] [5] [3] [1] [4] [7] -- [] [] [] []
State Zip

Telephone Number[4][1][4]-[2][4][8]-[1][9][2][5]

1.13 This reporting year is from $\begin{bmatrix} \overline{1} & \overline{2} \end{bmatrix}$ $\begin{bmatrix} \overline{8} & \overline{7} \end{bmatrix}$ to $\begin{bmatrix} \overline{1} & \overline{1} \end{bmatrix}$ $\begin{bmatrix} \overline{8} & \overline{8} \end{bmatrix}$
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.

[illegible][illegible]

8

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐ Classification Quantity (kg/yr)

Manufactured N/A

Imported N/A

Processed (include quantity repackaged) 9580

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year N/A

For on-site use or processing N/A

For direct commercial distribution (including export) N/A

In storage at the end of the reporting year N/A

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year 527

Processed as a reactant (chemical producer) N/A

Processed as a formulation component (mixture producer) N/A

Processed as an article component (article producer) 9123

Repackaged (including export) N/A

In storage at the end of the reporting year 984

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

ADIPRENE - L200

☐

L200

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
TDI	UNIROYAL	6.09% ± .2
POLYETHER POLYOL	UNIROYAL	75.08% ± .2
MBOCA	ANDERSON DEVELOPMENT	18.83% ± .2
Total		100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

VIBRATHANE - B685

☐

B685

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
TDI	UNIROYAL	3.02% ± .15
POLYETHER POLYOL	UNIROYAL	88.39% ± .15
MBOCA	ANDERSON DEVELOPMENT	8.59% ± .15
Total		100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

- 1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

VIBRATHANE - B696

	Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)	
B696 ←	TDI	UNIROYAL	3.02%	± .2
	POLYETHER POLYOL	UNIROYAL	88.40%	± .2
	MBOCA	ANDERSON DEVELOPMENT	8.58%	± .2
			Total	100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

VIBRATHANE - 8083

		Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)	
Component Name		Supplier Name	
8083	TDI	UNIROYAL	3.14% ± .15
	POLYESTER POLYOL	UNIROYAL	87.88% ± .15
	MBOCA	ANDERSON DEVELOPMENT	8.98% ± .15
Total			100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

- 1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

VIBRATHANE

		Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
8050T	{	TDI	UNIROYAL	4.64% ± .15
		POLYESTER POLYOL	UNIROYAL	82.04% ± .15
		MBOCA	ANDERSON DEVELOPMENT	13.32% ± .15
Total				100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

ANDUR - 95AP

		Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)	
Component Name		Supplier Name	
95AP	TDI	ANDERSON DEVELOPMENT	5.26% ± .2
	POLYETHER POLYOL	ANDERSON DEVELOPMENT	79.66% ± .2
	MBOCA	ANDERSON DEVELOPMENT	15.08% ± .2
		Total	100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

CYANAPRENE - A8 - QM

A8QM

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
TDI	AMERICAN CYANAMID	2.85% ± .2
POLYESTER POLYOL	AMERICAN CYANAMID	89.00% ± .2
MBOCA	ANDERSON DEVELOPMENT	8.15% ± .2
		Total 100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

CYANANPRENE 2175

2175



Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
TDI	AMERICAN CYANAMID	6.97% ± .2
POLYETHER POLYOL	AMERICAN CYANAMID	73.15% ± .2
MBOCA	ANDERSON DEVELOPMENT	19.88% ± .2
Total		100%

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending [1][1] [8][7]
Mo. Year

Quantity manufactured NA kg

Quantity imported NA kg

Quantity processed 6830 kg

Year ending [1][1] [8][6]
Mo. Year

Quantity manufactured NA kg

Quantity imported NA kg

Quantity processed 5619 kg

Year ending [1][1] [8][5]
Mo. Year

Quantity manufactured NA kg

Quantity imported NA kg

Quantity processed 5128 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

☐ Continuous process 1

Semicontinuous process 2

Batch process 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

☐

Continuous process 1

Semicontinuous process 2

Batch process 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

CBI

☐

Manufacturing capacity NA kg/yr

Processing capacity NA kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

CBI

☐

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	NA	NA	2000kg
Amount of decrease	NA	NA	NA

☐ Mark (X) this box if you attach a continuation sheet.

- 2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

	<u>Days/Year</u>	<u>Average Hours/Day</u>
Process Type #1 (The process type involving the largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u>NA</u>
Processed	<u>250</u>	<u>16</u>
Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u>NA</u>
Processed	<u>NA</u>	<u>NA</u>
Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u>NA</u>
Processed	<u>NA</u>	<u>NA</u>

- 2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

Maximum daily inventory	<u>NA</u>	kg
Average monthly inventory	<u>NA</u>	kg

☐ Mark (X) this box if you attach a continuation sheet.

- 2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

NA

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity</u> ¹	<u>Concentration (%) (specify ± % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

- 2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to ☐ the instructions for further explanation and an example.)

CBI

a. Product Types ¹	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users ²
X	100%	0%	I

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Custom Cast Polyurethane Parts</u>

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users ²
X	100%	0%	I

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Custom Cast Polyurethane Parts</u>

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type ¹	Final Product's Physical Form ²	Average % Composition of Listed Substance in Final Product	Type of End-Users ³
X	F4	5%	I

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Custom Cast Polyurethane Parts</u>

²Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

³Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the
CBI listed substance to off-site customers.

☐ Truck 1
Railcar 2
Barge, Vessel 3
Pipeline 4
Plane 5
Other (specify) 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers
CBI or prepared by your customers during the reporting year for use under each category
of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture NA kg/yr
Article 9123 kg/yr

ii. Commercial Products

Chemical or mixture NA kg/yr
Article NA kg/yr

iii. Consumer Products

Chemical or mixture NA kg/yr
Article NA kg/yr

iv. Other

Distribution (excluding export) NA kg/yr
Export NA kg/yr
Quantity of substance consumed as reactant NA kg/yr
Unknown customer uses NA kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
 CBI The average price is the market value of the product that was traded for the listed substance.

[]

Source of Supply	Quantity (kg)	Average Price (\$/kg)
The listed substance was manufactured on-site.	NA	NA
The listed substance was transferred from a different company site.	NA	NA
The listed substance was purchased directly from a manufacturer or importer.	NA	NA
The listed substance was purchased from a distributor or repackager.	NA	NA
The listed substance was purchased from a mixture producer.	9123	\$.22

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

[]

- Truck 1
- Railcar 2
- Barge, Vessel 3
- Pipeline 4
- Plane 5
- Other (specify) 6

[] Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your
CBI facility.

☐

Bags 1
Boxes 2
Free standing tank cylinders 3
Tank rail cars 4
Hopper cars 5
Tank trucks 6
Hopper trucks 7
Drums 8
Pipeline 9
Other (specify) 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders NA mmHg
Tank rail cars NA mmHg
Tank trucks NA mmHg

☐ Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify \pm % precision)</u>	<u>Amount Processed (kg/yr)</u>
<u>VIBRATHANE B696</u>	<u>UNIROYAL</u>	<u>3.3% \pm .2</u>	<u>4129</u>
<u>VIBRATHANE B685</u>	<u>UNIROYAL</u>	<u>3.3% \pm .15</u>	<u>1024</u>
<u>VIBRATHANE 8050T</u>	<u>UNIROYAL</u>	<u>5.35% \pm .15</u>	<u>2024</u>
<u>VIBRATHANE 8083</u>	<u>UNIROYAL</u>	<u>3.45% \pm .15</u>	<u>373</u>
ADIPRENE L200	UNIROYAL	7.5% \pm .15	224
CYANAPRENE 2175	AMERICAN CYANAMID	8.7% \pm .2	263
CYANAPRENE A- 8QM	AMERICAN CYANAMID	3.1% \pm .2	439
ANDUR 95 AP	ANDERSON DEVELOPMENT	6.2% \pm .2	647

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify \pm % precision)
Class I chemical	NA	NA
Class II chemical	NA	NA
Polymer	4129	3.3% \pm .2
	1024	3.3% \pm .15
	2024	5.35% \pm .15
	373	3.45% \pm .15
	224	7.5% \pm .2
	263	8.7% \pm .2
	439	3.1% \pm .2
	647	6.2% \pm .2

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

- 4.01 Specify the percent purity for the three major¹ technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI <input type="checkbox"/>	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
NA - MIXTURE			
Technical grade #1	_____ % purity	_____ % purity	_____ % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes (1)

No 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company 1

Another source (2)

☐ Mark (X) this box if you attach a continuation sheet.

Uniroyal Chemical Company, Inc.
World Headquarters
Middlebury, CT 06749UNIROYAL Emergency Phone: (203) 723-3670
CHEMTREC Transportation Emergency Phone: 1-800-424-9300
SAFETY DATA Information (203) 573-3303MSDS No. V766035Date Issued: 10/25/85**IDENTIFICATION**

R-1

Trade Name: VIBRATHANE® 8050

CAS Number: NA

Chemical Name: Reaction product of a polyester
with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Viscous liquid to a white, waxy solid; slight odor

Solubility: Reacts in water, soluble in
THF, DMF or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: < 90°F (22°C)

Reactive Isocyanate (NCO): 2.4 - 9.3

Specific Gravity (H₂O = 1): 1.15 - 1.22

Vapor Pressure @ 20°C: ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: > 400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

*European Economic Community

Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory-protection is recommended.

STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO₂ and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. **Physician -** treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

Uniroyal Chemical Company, Inc.
World Headquarters
Middlebury, CT 06749UNIROYAL Emergency Phone: (203) 723-3870
CHEMTREC Transportation Emergency Phone: 1-800-
SAFETY DATA Information (203) 573-3303MSDS No. V766045Date Issued: 10/25/85

IDENTIFICATION

Trade Name: **VIBRATHANE® 8083**CAS Number: **NA**Chemical Name: **Reaction product of a polyester
with toluene diisocyanate (TDI)**Chemical Family: **Polyurethane**

SPECIAL REGULATORY HAZARDS

IngredientCAS No.Exposure LimitOSHA (1910.1200)EEC*

TDI

584-84-9

.005 ppm
(ACGIH)Irritant
Sensitizer
Carcinogen
(NTP)Irritant
Sensitizer
Irreversible
effects

Hazard assessment based on available data.

Transportation: **NA**

PHYSICAL DATA

Appearance and Odor: **Viscous liquid to a white, waxy solid; slight odor**Solubility: **Reacts in water, soluble in
THF, DMF or methylene chloride**Melting Point: **ND**Boiling Point: **ND**Other Data: **Solidification Point: < 90°F (22°C)
Reactive Isocyanate (NCO): 2.4 - 9.3**Specific Gravity (H₂O = 1): **1.15 - 1.22**Vapor Pressure @ 20°C: **ND**Vapor Density (Air = 1): **ND**Volatility @ 70°F: **Low**

FIRE AND EXPLOSION HAZARD DATA

Flash Point: **> 400°F (204°C) CC**Autoignition Temp: **ND**Extinguishing Media: **Water spray, dry chemical**Flammable Limits: **ND**Special Fire Fighting Procedures: **Protect against inhalation of cyanate vapors and other decomposition/combustion products.**Unusual Hazards: **None identified.**

REACTIVITY DATA

Stability: **Stable at ambient temperatures and pressures.**Incompatibility: **Avoid contamination with water, solvents and any foreign matter.**Decomposition Products: **High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.**

NA = Not Applicable

ND = Not Determined

*European Economic Community

Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO₂ and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.
Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.
Inhalation: Remove to fresh air. **Physician -** treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

MATERIAL SAFETY DATA SHEET



Uniroyal Chemical Company, Inc.
World Headquarters
Middlebury, Connecticut 06749

UNIROYAL Emergency Phone 203/723-3670
CHEMTREC Transportation Emergency Phone: 800/424-9300
SAFETY DATA Information: 203/573-3492

I. IDENTIFICATION

Trade Name: VIBRATHANE® B-696 CAS Number: NA
Chemical Name: Reaction product of a polyether with toluene diisocyanate (TDI) Chemical Family: Polyurethane

II. SPECIAL REGULATORY HAZARDS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limit</u>	<u>OSHA (1910.1200)</u>	<u>EEC*</u>
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Transportation: NA

III. PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor
Solubility: Reacts in water, soluble in THF, DMF or methylene chloride
Melting Point: ND
Boiling Point: ND
Other Data: Solidification Point: 60°F (16°C)
Reactive Isocyanate (NCO): 2.8-12.45
Specific Gravity (H₂O = 1): 1.02 - 1.11
Vapor Pressure @ 20°C: ND
Vapor Density (Air = 1): ND
Volatility @ 70°F: Low

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 400°F 204°C CC Autoignition Temp: ND
Extinguishing Media: Water spray, dry chemical Flammable Limits in Air: ND
Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.
Unusual Hazards: None identified.

V. REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.
Incompatibility: Avoid contamination with water, solvents and any foreign matter.
Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

*European Economic Community

Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

VI. SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid all contact with eyes, skin and clothing. Avoid breathing vapors. In the absence of good ventilation under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

VII. STORAGE, SPILLS, AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO₂ and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. **WARNING!** Burning this material can produce toxic fumes.

Environmental Information: Environmental effects have not been determined.

VIII. HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption

First Aid Procedures:

- Eye contact: Flush with water for 15 minutes. Get medical attention.
- Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.
- Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02-4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

MATERIAL SAFETY DATA SHEET



Uniroyal Chemical Company, Inc.
World Headquarters
Middletown, Connecticut 06457

UNIROYAL Emergency Phone 203/723-3670
CHEMTREC Transportation Emergency Phone: 800/424-9300
SAFETY DATA Information: 203/573-3402

I. IDENTIFICATION

Trade Name: VIBRATHANE® B-685 CAS Number: NA
Chemical Name: Reaction product of a polyether with toluene diisocyanate (TDI) Chemical Family: Polyurethane

II. SPECIAL REGULATORY HAZARDS

Ingredient	CAS No.	Exposure Limit	OSHA (1910.1200)	EEC*
TDI	584-84-9	.005 ppm (ACGIH)	Irritant Sensitizer Carcinogen (NTP)	Irritant Sensitizer Irreversible effects

Transportation: NA

III. PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor
Solubility: Reacts in water, soluble in THF, DMF or methylene chloride
Melting Point: ND
Boiling Point: ND
Other Data: Solidification Point: 60°F (16°C)
Reactive Isocyanate (NCO): 2.8-12.45

Specific Gravity (H₂O = 1): 1.02 - 1.11
Vapor Pressure @ 20°C.
Vapor Density (Air = 1): ND
Volatility @ 70°F: Low

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 400°F 204°C CC Autoignition Temp: ND
Extinguishing Media: Water spray, dry chemical Flammable Limits in Air: ND
Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.
Unusual Hazards: None identified.

V. REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.
Incompatibility: Avoid contamination with water, solvents and any foreign matter.
Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

*European Economic Community

Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

VI. SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid all contact with eyes, skin and clothing. Avoid breathing vapors. In the absence of good ventilation under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

VII. STORAGE, SPILLS, AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO₂ and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal. Reportable Quantity-100 lbs. (TDI)

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. **WARNING!** Burning this material can produce toxic fumes.

Environmental Information: Environmental effects have not been determined.

VIII. HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption

First Aid Procedures:

Eye contact: Flush with water for 15 minutes. Get medical attention.
Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.
Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02-4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

**UNIROYAL
CHEMICAL**

34100029
Material Safety Data Sheet

Uniroyal Chemical Company, Inc.
World Headquarters
Middlebury, CT 06749

UNIROYAL Emergency Phone: (203) 723-3670
CHEMTREC Transportation Emergency Phone: 1-800-424-9300
SAFETY DATA Information (203) 573-3303

MSDS No. V752007

Date Issued: 10/25/85

IDENTIFICATION

R-1

Trade Name: ADIPRENE® L-200

CAS Number: NA

Chemical Name: Reaction product of a polyether
with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

EEC*

TDI

584-84-9

.005 ppm
(ACGIH)

Irritant
Sensitizer
Carcinogen
(NTP)

Irritant
Sensitizer
Irreversible
effects

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Honey-colored liquid; slight odor

Solubility: Reacts in water, soluble in
THF, DMF or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: NA

Specific Gravity (H₂O = 1): 1.03 - 1.15

Vapor Pressure @ 20°C: ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, strong oxidizers or alcohol.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

*European Economic Community

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SPECIAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO₂ and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.
Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: **Eye contact:** Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. **Physician -** treat for potential respiratory irritation.

Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.



Anderson
Development Company

Product Common Name Andur

Effective Date November 15, 1985

Material Safety Data Sheet

HAZARD RATING

4=EXTREME
3=HIGH
2=MODERATE
1=SLIGHT
0=INSIGNIFICANT
•=SEE SECTION IV

FIRE 1
TOXICITY 2
REACTIVITY 1
SPECIAL W

TRANSPORTATION EMERGENCY: CALL CHEMTREC

TELEPHONE NUMBER: (800) 424-9300

ANDERSON DEVELOPMENT EMERGENCY

TELEPHONE NUMBER: (517) 263-2121

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STD.)

SECTION I IDENTIFICATION

PRODUCT NAME: Andur Prepolymer (-AP, -DP, AL-, -AS/Part A Designations)			
CHEMICAL NAME: Isocyanate Terminated Prepolymer		CHEMICAL FAMILY:	Diisocyanate
FORMULA: Polymeric		T.S.C.A. STATUS:	Yes 1980
/NONYMS: Aromatic and Aliphatic Diisocyanates			
DEPARTMENT OF TRANSPORTATION	HAZARD CLASSIFICATION	Not Regulated	
	SHIPPING NAME	Plastic Material Liquid, NOI	
CAS # Not Applicable CAS NAME This MSDS Represents Various Diisocyanates			

SECTION II HAZARDOUS COMPONENTS

MATERIAL	%	TLV (Units)	HAZARD
Isocyanate Monomer	<3	0.02 ppm	Highly Toxic Vapors

SECTION III PHYSICAL DATA

Melting point	Not Known	Specific Gravity (H ₂ O = 1)	1.07 ±0.05
Boiling point	Above 450°F	Solubility in H ₂ O, % by WT	Reacts
Vapor pressure	0.0003 @20°C	% Volatiles by Volume	<2
Vapor Density (Air - 1)	6	Evaporation rate (butyl acetate = 1)	0 - Reacts Air Humidity
Room temperature appearance & state	Light Yellow Liquid	pH (as is)	Not Applicable
Odor	Slight Isocyanate	pH (1% solution)	Not Applicable

MSDS # 0003

SECTION IV FIRE AND EXPLOSION DATA

Flash point 325°F (COC)	Flammable Limits (air)	Upper	Not Known
Autoignition temp. Not Known		Lower	Not Known
Extinguishing media <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Water Fog <input checked="" type="checkbox"/> CO ₂ <input checked="" type="checkbox"/> Dry Chemical <input type="checkbox"/> Other _____			
Special fire fighting procedures	Highly toxic gases. Wear self-contained breathing apparatus.		
Degree of fire and explosion hazard	Slight chance of initiating fire. High risk fire fighting. Close containers may explode from extreme heat or water contamination.		
<input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	Hazardous Polymerization <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur		
Conditions to Avoid	High temperatures.		
Major contaminants that may contribute to instability	See Incompatibility.		
Incompatibility	Water, Alcohols, Amines, Alkali, Metal Compounds, Surfactants		
Hazardous decomposition products	Traces of Hydrogen Cyanide, Carbon Dioxide, Carbon Monoxide, Nitrogen Oxides, Monomeric Isocyanate		

SECTION V SPECIAL PROTECTION

Ventilation requirements	Local to maintain vapor conc. below TLV.
Recommended personal protective equipment:	See specifics below.
Respiratory (Specify conditions)	Normal Conc.: Canister (organic). High Conc.: Self-Contained (air).
Eyes	Safety Glasses. Contact lenses should not be worn.
Gloves	Chemical resistant rubber or plastic.
Special clothing and equipment	Safety showers, eye-wash.

SECTION VI SPILL CONTROL

Procedure for release or spill	Evacuate non-essential personnel (toxic vapors). Ventilate area and cover spill with absorbent. Decontaminate with a dilute base. Collect material in open containers and treat with additional base.
Waste disposal method	In accordance with Federal, State and Local Regulations. Prior to disposal, decontaminate empty containers due to product residue.
Neutralizing chemicals	Dilute base preferably a solution of 10% ammonium hydroxide in water.

SECTION VII HEALTH EFFECTS DATA

TLV AND SOURCE: Occupational exposure to diisocyanates. TLV = 0.02 ppm; TWA = 5 ppm; SAX 6 Ed.	
ACUTE EFFECTS OF OVEREXPOSURE	
SWALLOWING	Monomeric isocyanate. Oral Rat-LD ₅₀ : 5800 mg/kg.
SKIN ABSORPTION	Allergic Dermatitis including rash, itching, hives and swelling.
INHALATION	Monomeric isocyanate injurious to lungs and pulmonary edema may occur.
SKIN CONTACT	Irritation and itching.
EYE CONTACT	Monomer isocyanate eye rbt 100 mg. Severe damage. Watering of eyes.
CHRONIC EFFECTS OF OVEREXPOSURE	Extreme sensitivity may result.
OTHER HEALTH HAZARDS	Allergic reaction in some individuals.
EMERGENCY AND FIRST AID PROCEDURES:	
SWALLOWING	See Physician Immediately.
SKIN	Remove contaminated clothing. Wash affected area with soap and water.
INHALATION	Move from area of exposure. Administer oxygen.
EYES	Eyewash flush - see Physician.

ALTHOUGH THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN (HEREINAFTER "INFORMATION") ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE CORRECT AS OF THE DATE HEREOF, ANDERSON DEVELOPMENT COMPANY MAKES NO REPRESENTATIONS AS TO THE COMPLETENESS OR ACCURACY THEREOF. INFORMATION IS SUPPLIED UPON THE CONDITION THAT PERSONS RECEIVING SAME WILL MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR PURPOSES PRIOR TO USE. IN NO EVENT WILL ANDERSON DEVELOPMENT COMPANY BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF OR RELIANCE UPON INFORMATION. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.



Anderson
Development Company

1415 E. MICHIGAN STREET • ADRIAN, MICHIGAN 49221-3499, U.S.A. • (517) 263-2121 • TWX 510-450-2890

MATERIAL SAFETY DATAMSDS NO. 2860-03
DATE: 02/10/89**PRODUCT IDENTIFICATION**

TRADE NAME:	CYANAPRENE® A-8 QM Urethane Prepolymer
SYNONYMS:	None
CHEMICAL FAMILY:	Polyurethane resin
MOLECULAR FORMULA:	Mixture
MOLECULAR WGT.:	Mixture

WARNING

WARNING! CONTAINS TOLUENE DIISOCYANATE (TDI)
VAPOR EXTREMELY IRRITATING
HARMFUL IF INHALED
MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION
CONTAMINATION OR EXCESSIVE HEAT MAY RESULT IN
DANGEROUS PRESSURE

CHRONIC HAZARD WARNINGS

CHRONIC TOXICITY HAZARD. CONTAINS TDI WHICH
MAY CAUSE RESPIRATORY SYSTEM DAMAGE. TDI
CAUSED CANCER IN LABORATORY ANIMAL TESTS.

OSHA REGULATED COMPONENTS

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
Toluene diisocyanate	026471-62-5	0-0.70	0.02 ppm (ceiling) 0.005 ppm	OSHA ACGIH NTP

NFPA HAZARD RATING

Fire
1
Health 3 1 Reactivity
Special

FIRE: Material that must be preheated before ignition can occur.
HEALTH: Materials which on short exposure could cause serious temporary or residual injury even though prompt medical treatment were given.
REACTIVITY: Materials which in themselves are normally stable, but which can become unstable at elevated temperatures and pressures or which may react with water with some release of energy but not violently.

HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE: The estimated acute oral (rat) LD50 and acute dermal (rabbit) LD50 values for this material are greater than 5000 mg/kg and greater than 2000 mg/kg respectively. Acute inhalation exposure may cause allergic respiratory reactions due to TDI but the product as a whole is estimated to have an LC50 greater than 10 mg/liter. Repeated or prolonged dermal contact with this material may cause allergic skin reactions.

Toxicology information on regulated components of this product is as follows:
Acute overexposure to toluene diisocyanate vapor may cause severe respiratory irritation. Repeated overexposure to low levels may cause

EMERGENCY PHONE: 201/835-3100**AMERICAN CYANAMID COMPANY, 1 CYANAMID PLAZA, WAYNE, NEW JERSEY 07470**

CYANAPRENE® A-8 QM Urethane Prepolymer

respiratory sensitization and allergic reactions, as well as loss of respiratory volume. Skin exposure to the liquid may cause moderate irritation and allergic skin reactions. It is also an eye irritant. The oral LD50 in the rat is 5.8-6.2 g/kg, and the inhalation LC50 after a 4 hour exposure to toluene diisocyanate vapor in the rat is 14 ppm. In a study by the NTP, TDI was administered by gavage to rats and produced an increase in the number of tumors in these animals. When administered by inhalation, no carcinogenic effects were observed.

FIRST AID:

In case of skin contact, immediately wash affected areas with soap and plenty of water. Remove contaminated clothing and shoes. Obtain medical attention. Destroy or thoroughly clean shoes before reuse. Do not reuse contaminated clothing without laundering.

In case of eye contact, immediately irrigate with plenty of water for 15 minutes. Obtain medical attention if irritation persists.

If vapor of this material is inhaled, remove from exposure. Administer oxygen if there is difficulty in breathing. Give artificial respiration if person is not breathing and continue until normal breathing is established. Obtain medical attention without delay.

**EXPOSURE
CONTROL METHODS**

Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands with soap and water. Prevent eye and skin contact. Wear the special protective equipment specified below for operations where eye or skin contact can occur. Prevent contamination of skin or clothing when removing protective equipment. Provide eyewash fountain and safety shower in close proximity to points of potential exposure. Where exposures are below the PEL, no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH or full protective suit with air supply appropriate for the material and level of exposure. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION" (NIOSH). Shower after completion of workshift. Launder work clothing at end of workshift prior to reuse. Store street clothing separately from work clothing and protective equipment. Work clothing and shoes must not be taken home.

Special protective equipment - To prevent skin contact wear skin protection, such as impervious gloves, apron, workpants, long sleeve workshirt, or disposable coveralls. To prevent eye contact wear eye protection such as chemical splash proof goggles or face shield.

CYANAPRENE® A-8 QM Urethane Prepolymer**FIRE AND
EXPLOSION
HAZARD
INFORMATION****FLASH POINT:** Not Available**FLAMMABLE LIMITS
(% BY VOL):** Not Available**AUTOIGNITION TEMP:** Not Available**DECOMPOSITION TEMP:** Not Available**FIRE FIGHTING:** Use carbon dioxide, dry chemical, water spray or alcohol foam to extinguish fires. If water spray or alcohol foam is used, it should be in large quantities. Water or alcohol foam may react vigorously with hot isocyanate releasing carbon dioxide. Do not reseal contaminated containers since pressure build-up may cause rupture. Use water to keep fire-exposed containers cool. Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing. See Exposure Control Methods for special protective clothing.**REACTIVITY DATA****STABILITY:** Stable
CONDITIONS TO AVOID: Reacts vigorously with water at or above its melting point with frothing and liberation of carbon dioxide. Contamination or excessive heat may result in dangerous pressure.**POLYMERIZATION:** Will Not Occur
CONDITIONS TO AVOID: None known**INCOMPATIBLE
MATERIALS:** Water, amines, alcohols, acids, oxidizing agents. Do not allow water or other contaminants to get into containers.**HAZARDOUS
DECOMPOSITION
PRODUCTS:** Hydrolysis liberates carbon dioxide. Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, oxides of nitrogen and/or toluene diisocyanate.**PHYSICAL
PROPERTIES****APPEARANCE AND
ODOR:** White to light tan viscous liquid at 140 F, solidifies slowly at room temperature; practically no odor**BOILING POINT:** Not Available**MELTING POINT:** 104-124 F(40-60 C)**VAPOR PRESSURE:** 0.5mm Hg @ 140C**SPECIFIC GRAVITY:** 1.15 @ 212 F**VAPOR DENSITY:** Not Available**% VOLATILE (BY VOL):** Not Available**OCTANOL/H₂O
PARTITION COEF.:** Not Available**pH:** Not Available**SATURATION IN AIR
(BY VOL):** Not Available**EVAPORATION RATE:** Not Available**SOLUBILITY IN WATER:** Reacts with water

CYANAPRENE® A-8 QM Urethane Prepolymer**SPILL OR LEAK
PROCEDURES****STEPS TO BE TAKEN IN
CASE MATERIAL IS
RELEASED OR SPILLED:**

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator. Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Exposure Control Methods, wear impervious boots. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush area with water.

WASTE DISPOSAL

Disposal must be made in accordance with applicable governmental regulations.

**SPECIAL
PRECAUTIONS****HANDLING AND
STORAGE/OTHER:**

Excessive heat (150 C), while in an unvented vessel may result in dangerous build up of pressure. CYANAPRENE Urethane Prepolymers are resins which become very viscous (unpourable) below 20 C and solidify as waxy solids below 0 C. To prepare for unloading, the drum with bung vent inserted, should be placed in a warm room, drum warmer or meltdown oven for a period of time sufficient to melt the desired amount of CYANAPRENE prepolymer. Liquid CYANAPRENE prepolymer can then be removed from the drum by inserting a drum spigot or ball valve in the 2" bung, positioning on a drum tilter, tilting and pouring out required amount. Dry nitrogen (-40 C dewpoint) should be bled into the drum at no pressure to replace the CYANAPRENE prepolymer removed. Cyanaprene prepolymers are heat-sensitive and can be damaged by excessive exposure to heat. To avoid this, refer to product label from total heat exposure instructions. Do not use air pressure or apply heat with open flame to remove contents of drum.

**D.O.T. SHIPPING
INFORMATION****PROPER SHIPPING
NAME:**

ORM-A, N.O.S.

HAZARD CLASS:

ORM-A

UN/NA:

NA1693

**D.O.T. HAZARDOUS
SUBSTANCES:**

(Reportable Quantity of Product)
TOLUENE DIISOCYANATE (14,286 lbs-0.7%)

D.O.T. LABEL REQUIRED: None**TSCA
INFORMATION**

This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.

**ENVIRONMENTAL
INFORMATION**

The following components are defined as toxic chemicals subject to reporting requirements of Section 313 of Title III and of 40 CFR 372 or subject to other EPA regulations.

COMPONENT	CAS. NO.	%	SARA TITLE III			RCRA	TSCA 12B
			TPQ (lbs.)	RQ (lbs.)	S313		
Toluene diisocyanate	026471-62-5	0-0.70	500	100	YES	U223	NO

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA

ACUTE (Y) CHRONIC (Y) FIRE (N) REACTIVE (Y) PRESSURE (N)

Marvin A. Friedman, Ph.D., Director of Toxicology and Product Safety

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product read its label.

MATERIAL SAFETY DATAMSDS NO. 3426-02
DATE: 02/10/89**PRODUCT
IDENTIFICATION**

TRADE NAME: **CYANAPRENE® 2175 Polyether Urethane
Prepolymer**

SYNONYMS: None

CHEMICAL FAMILY: Polyurethane resin

MOLECULAR FORMULA: Mixture

MOLECULAR WGT.: Mixture

WARNING

WARNING! CONTAINS TOLUENE DIISOCYANATE (TDI)
VAPOR EXTREMELY IRRITATING
HARMFUL IF INHALED
MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION
CONTAMINATION OR EXCESSIVE HEAT MAY RESULT IN
DANGEROUS PRESSURE

**OSHA
REGULATED
COMPONENTS**

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
Toluene diisocyanate	026471-62-5	0.70 MAX	0.02 ppm (ceiling) 0.005 ppm	OSHA ACGIH NTP

**NFPA HAZARD
RATING**

Fire 1
Health 3 1 Reactivity
Special

FIRE: Material that must be preheated before ignition can occur.

HEALTH: Materials which on short exposure could cause serious temporary or residual injury even though prompt medical treatment were given.

REACTIVITY: Materials which in themselves are normally stable, but which can become unstable at elevated temperatures and pressures or which may react with water with some release of energy but not violently.

**HEALTH HAZARD
INFORMATION**

EFFECTS OF OVEREXPOSURE: The estimated acute oral (rat) LD50 and acute dermal (rabbit) LD50 values for this material are greater than 5000 mg/kg and greater than 2000 mg/kg respectively. Acute inhalation exposure may cause allergic respiratory reactions due to TDI but the product as a whole is estimated to have an LC50 greater than 10 mg/liter. Repeated or prolonged dermal contact with this material may cause allergic skin reactions.

Toxicology information on regulated components of this product is as follows:
Acute overexposure to toluene diisocyanate vapor may cause severe respiratory irritation. Repeated overexposure to low levels may cause respiratory sensitization and allergic reactions, as well as loss of

EMERGENCY PHONE: 201/835-3100**AMERICAN CYANAMID COMPANY, 1 CYANAMID PLAZA, WAYNE, NEW JERSEY 07470**

respiratory volume. Skin exposure to the liquid may cause moderate irritation and allergic skin reactions. It is also an eye irritant. The oral LD50 in the rat is 5.8-6.2 g/kg, and the inhalation LC50 after a 4 hour exposure to toluene diisocyanate vapor in the rat is 14 ppm. In a study by the NTP, TDI was administered by gavage to rats and produced an increase in the number of tumors in these animals. When administered by inhalation, no carcinogenic effects were observed.

FIRST AID:

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CONTROL METHODS**

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Special protective equipment - To prevent skin contact wear skin protection, such as impervious gloves, apron, workpants, long sleeve workshirt, or disposable coveralls. To prevent eye contact wear eye protection such as chemical splash proof goggles or face shield.

CYANAPRENE® 2175 Polyether Urethane Prepolymer**SPILL OR LEAK
PROCEDURES****STEPS TO BE TAKEN IN
CASE MATERIAL IS
RELEASED OR SPILLED:**

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator. Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Exposure Control Methods, wear impervious boots. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush area with water.

WASTE DISPOSAL

Disposal must be made in accordance with applicable governmental regulations.

**SPECIAL
PRECAUTIONS****HANDLING AND
STORAGE/OTHER:**

Excessive heat (150 C), while in an unvented vessel may result in dangerous build up of pressure. CYANAPRENE Urethane Prepolymers are resins which become very viscous (unpourable) below 20 C and solidify as waxy solids below 0 C. To prepare for unloading, the drum with bung vent inserted, should be placed in a warm room, drum warmer or meltdown oven for a period of time sufficient to melt the desired amount of CYANAPRENE prepolymer. Liquid CYANAPRENE prepolymer can then be removed from the drum by inserting a drum spigot or ball valve in the 2" bung, positioning on a drum tilter, tilting and pouring out required amount. Dry nitrogen (-40 C dewpoint) should be bled into the drum at no pressure to replace the CYANAPRENE prepolymer removed. Cyanaprene prepolymers are heat-sensitive and can be damaged by excessive exposure to heat. To avoid this, refer to product label from total heat exposure instructions. Do not use air pressure or apply heat with open flame to remove contents of drum.

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INFORMATION****PROPER SHIPPING
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ORM-A, N.O.S.

HAZARD CLASS:

ORM-A

UN/NA:

NA1693

**D.O.T. HAZARDOUS
SUBSTANCES:**

(Reportable Quantity of Product)
TOLUENE DIISOCYANATE (14,286 lbs-0.7%)

D.O.T. LABEL REQUIRED: None**TSCA
INFORMATION**

This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.

**ENVIRONMENTAL
INFORMATION**

The following components are defined as toxic chemicals subject to reporting requirements of Section 313 of Title III and of 40 CFR 372 or subject to other EPA regulations.

COMPONENT	CAS. NO.	%	SARA TITLE III			RCRA	TSCA 12B
			TPQ (lbs.)	RQ (lbs.)	S313		
Toluene diisocyanate	026471-62-5	0.70 MAX500		100	YES	U223	NO

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA

ACUTE (Y) CHRONIC (Y) FIRE (N) REACTIVE (Y) PRESSURE (N)

Marvin A. Friedman, Ph.D., Director of Toxicology and Product Safety

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**FIRE AND
EXPLOSION
HAZARD
INFORMATION**

FLASH POINT: METHOD:	707 F (375 C) Closed Cup
FLAMMABLE LIMITS (% BY VOL):	Not Available
AUTOIGNITION TEMP:	Not Available
DECOMPOSITION TEMP:	Not Available
FIRE FIGHTING:	Use carbon dioxide, dry chemical, water spray or alcohol foam to extinguish fires. If water spray or alcohol foam is used, it should be in large quantities. Water or alcohol foam may react vigorously with hot isocyanate releasing carbon dioxide. Do not reseal contaminated containers since pressure build-up may cause rupture. Use water to keep fire-exposed containers cool. Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing. See Exposure Control Methods for special protective clothing.

REACTIVITY DATA

STABILITY:	Stable
CONDITIONS TO AVOID:	Reacts vigorously with water at or above its melting point with frothing and liberation of carbon dioxide. Contamination or excessive heat may result in dangerous pressure.
POLYMERIZATION: CONDITIONS TO AVOID:	Will Not Occur None known
INCOMPATIBLE MATERIALS:	Water, amines, alcohols, acids, oxidizing agents. Do not allow water or other contaminants to get into containers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrolysis liberates carbon dioxide. Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, oxides of nitrogen and/or toluene diisocyanate.

**PHYSICAL
PROPERTIES**

APPEARANCE AND ODOR:	Clear to light yellowish viscous liquid at room temperature which changes to waxy solid with time
BOILING POINT:	Not Applicable
MELTING POINT:	Not Applicable
VAPOR PRESSURE:	Not Available
SPECIFIC GRAVITY:	Not Available
VAPOR DENSITY:	Not Available
% VOLATILE (BY VOL):	Not Available
OCTANOL/H ₂ O PARTITION COEF.:	Not Applicable
pH:	Not Applicable
SATURATION IN AIR (BY VOL):	Not Available
EVAPORATION RATE:	Not Applicable
SOLUBILITY IN WATER:	Reacts with water

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

(Non-Mandatory Form)

Form Approved

OMB No. 1218-0072



IDENTITY (As Used on Label and List)
POLYURETHANE ELASTOMER

Note: Blank spaces are not permitted. If any item is not applicable, or no
information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name

Emergency Telephone Number

Address (Number, Street, City, State, and ZIP Code)

Telephone Number for Information

Date Prepared

Signature of Preparer (optional)

Section II — Hazardous Ingredients/Identify Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
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NOT APPLICABLE

POLYURETHANE ELASTOMERS ARE FULLY REACTED POLYMERS

FORMING ARTICLES WHICH ARE NOT CONSIDERED HAZARDOUS

UNDER OSHA'S CRITERIA IN 29CFR1910.1200

Section III — Physical/Chemical Characteristics

Boiling Point	NOT APPLICABLE	Specific Gravity (H ₂ O = 1)	1.05 - 1.26
Vapor Pressure (mm Hg.)	NOT APPLICABLE	Melting Point	MELTS 380°F - 450°F WILL DEGRADE ABOVE 300°F (150°C)
Vapor Density (AIR = 1)	NOT APPLICABLE	Evaporation Rate (Butyl Acetate = 1)	NOT APPLICABLE

Solubility in Water
INSOLUBLE

Appearance and Odor
SOLID, NO ODOR

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
NOT APPLICABLE		NOT APPLICABLE	NOT APPLICABLE

Extinguishing Media
WATER, DRY CHEMICAL, FOAM OR CARBON DIOXIDE

Special Fire Fighting Procedures EVACUATE NON-EMERGENCY PERSONNEL TO A SAFE AREA. FIREFIGHTERS SHOULD USE SELF-CONTAINED BREATHING APPARATUS. AVOID BREATHING SMOKE, FUMES, AND DECOMPOSITION PRODUCTS. USE WATER SPRAY TO DRENCH SHOULDERS ELASTOMER. PRODUCT MAY MELT, AFTER IGNITION, TO FORM FLAMMABLE LIQUIDS. BURNING PRODUCES INTENSE HEAT, DENSE SMOKE, AND TOXIC GASES, SUCH AS CARBON MONOXIDE, OXIDES OF NITROGEN AND TRACES OF HYDROGEN CYANIDE.

Unusual Fire and Explosion Hazards
NONE

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	NONE

Incompatibility (Materials to Avoid) STRONG ACIDS OR BASES

Hazardous Decomposition or Byproducts DECOMPOSITION THROUGH BURNING PRODUCES FUMES CONSISTING OF ORGANIC PARTICULATES, GASEOUS HYDROCARBONS, CARBON DIOXIDE, CARBON MONOXIDE AND MAY CONTAIN TRACES OF TOLUENE DIISOCYANATE OR DIPHENYL METHANE DIISOCYANATE, HYDROGEN CYANIDE, ACRYLEIN AND OXIDES OF NITROGEN.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? YES, PRIMARY ROUTE Skin? NO Ingestion? NO TOXIC EFFECTS ARE EXPECTED.
 INHALATION OF DUST DURING MACHINING AND INHALATION OF VAPORS DURING HOT WIRE CUTTING OR BRANDING.
 Health Hazards (Acute and Chronic) ACUTE: NONE KNOWN FROM SOLID ARTICLE. FUMES FROM HOT-WIRE CUTTING CAN BE IRRITATING AND LEAD TO COUGHING. THESE FUMES COULD CONTAIN TRACES OF ISOCYANATES (MDI OR TDI) DEPENDING UPON WHICH ISOCYANATE IS USED IN THE ELASTOMER FORMULATION.
 CHRONIC: ANIMAL STUDIES INDICATE THAT CHRONIC INHALATION OR OVEREXPOSURE OF DUSTS MAY CAUSE INFLAMMATION OF THE LUNGS, FIBROSIS, AND AIRWAY OBSTRUCTION.

Carcinogenicity: NTP? NO IARC Monographs? NO OSHA Regulated? NO
 CURED POLYURETHANE IS NOT LISTED AS A CARCINOGEN.

Signs and Symptoms of Exposure
 SEE ACUTE AND CHRONIC EFFECTS.

Medical Conditions Generally Aggravated by Exposure DUST FROM GRINDING OPERATIONS MAY AGGRAVATE EXISTING LUNG DISORDERS WHEN PROPER PROTECTION IS NOT USED.

Emergency and First Aid Procedures
 FLUSH EYES WITH WATER IF DUST FROM GRINDING CAUSES IRRITATION.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled
 PICK UP AND HANDLE AS ANY OTHER INERT SOLID MATERIAL.

Waste Disposal Method
 NOT CONSIDERED A HAZARDOUS MATERIAL. DISPOSE OF MATERIAL ACCORDING TO ANY LOCAL, STATE AND FEDERAL REGULATIONS.

Precautions to Be Taken in Handling and Storing
 STORE ELASTOMERS IN AREAS EQUIPPED WITH SPRINKLER SYSTEMS. STORE AWAY FROM SPARKS, FLAMES OR OTHER IGNITION SOURCES.

Other Precautions CUTTING ELASTOMER BY HOT WIRE OR HOT BRANDING CAN FORM DECOMPOSITION PRODUCTS. LOCAL EXHAUST VENTILATION SHOULD BE USED TO REMOVE ANY FUMES. IF ISOCYANATES ARE EMITTED, VENTILATION SHOULD BE SUFFICIENT TO INSURE LEVELS BELOW THE TLV FOR TDI (0.005 PPM TWA/0.02 PPM STEL) OR MDI (0.02 PPM CEILING) ALSO SEE RESPIRATORY PROTECTION BELOW.

Section VIII — Control Measures

Respiratory Protection (Specify Type) FOR GRINDING—WEAR A DUST MASK. IF GENERATING FUMES FROM HOT WIRE OR HOT KNIFE OPERATION WEAR AN AIR-PURIFYING RESPIRATOR WITH ORGANIC CARTRIDGE, IF VENTILATION IS INADEQUATE.

Ventilation	Local Exhaust AS REQUIRED TO REDUCE DUST AND FUME EXPOSURE BELOW OSHA LEVELS.	Special	NONE
	Mechanical (General) SEE LOCAL EXHAUST	Other	NONE

Protective Gloves NONE REQUIRED Eye Protection NONE REQUIRED IN NORMAL USE. FOR GRINDING OPERATIONS, USE GRINDING GOGGLES.

Other Protective Clothing or Equipment
 NONE REQUIRED

Work/Hygienic Practices
 NONE REQUIRED

- 4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes 1

No 2

- 4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture NA	1	2	3	4	5
Import NA	1	2	3	4	5
Process	1	2	3	4	5
Store	1	2	3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.

4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥ 10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

NA - MIXTURE

Physical
State

Manufacture Import Process Store Dispose Transport

Dust	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Powder	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Fiber	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Aerosol	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

NA

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) (1/M cm) at _____ nm
Reaction quantum yield, ϕ at _____ nm
Direct photolysis rate constant, k_p , at ... 1/hr _____ latitude

b. Oxidation constants at 25°C:

For 1O_2 (singlet oxygen), k_{ox} 1/M hr
For RO_2 (peroxy radical), k_{ox} 1/M hr

c. Five-day biochemical oxygen demand, BOD_5 ... mg/l

d. Biotransformation rate constant:

For bacterial transformation in water, k_b ... 1/hr
Specify culture

e. Hydrolysis rate constants:

For base-promoted process, k_B 1/M hr
For acid-promoted process, k_A 1/M hr
For neutral process, k_N 1/hr

f. Chemical reduction rate (specify conditions) _____

g. Other (such as spontaneous degradation) ... _____

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

NA	
Media	Half-life (specify units)
Groundwater	_____
Atmosphere	_____
Surface water	_____
Soil	_____

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

CAS No.	Name	Half-life (specify units)	Media
_____	_____	_____	in _____
_____	_____	_____	in _____
_____	_____	_____	in _____
_____	_____	_____	in _____

5.03 Specify the octanol-water partition coefficient, K_{ow} ... _____ at 25°C

Method of calculation or determination _____

5.04 Specify the soil-water partition coefficient, K_d _____ at 25°C

Soil type _____

5.05 Specify the organic carbon-water partition coefficient, K_{oc} _____ at 25°C

5.06 Specify the Henry's Law Constant, H _____ atm-m³/mole

☐ Mark (X) this box if you attach a continuation sheet.

- 5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

<u>Bioconcentration Factor</u>	NA	<u>Species</u>	<u>Test</u> ¹
_____		_____	_____
_____		_____	_____
_____		_____	_____

¹Use the following codes to designate the type of test:

F = Flowthrough

S = Static

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of CBI the listed substance sold or transferred in bulk during the reporting year.

☐

NA

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	_____	_____
Distribution -- Wholesalers	_____	_____
Distribution -- Retailers	_____	_____
Intra-company transfer	_____	_____
Repackagers	_____	_____
Mixture producers	_____	_____
Article producers	_____	_____
Other chemical manufacturers or processors	_____	_____
Exporters	_____	_____
Other (specify)	_____	_____
_____	_____	_____

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
DIPHENYLMETHANE DIISOCYANATE	\$.44
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

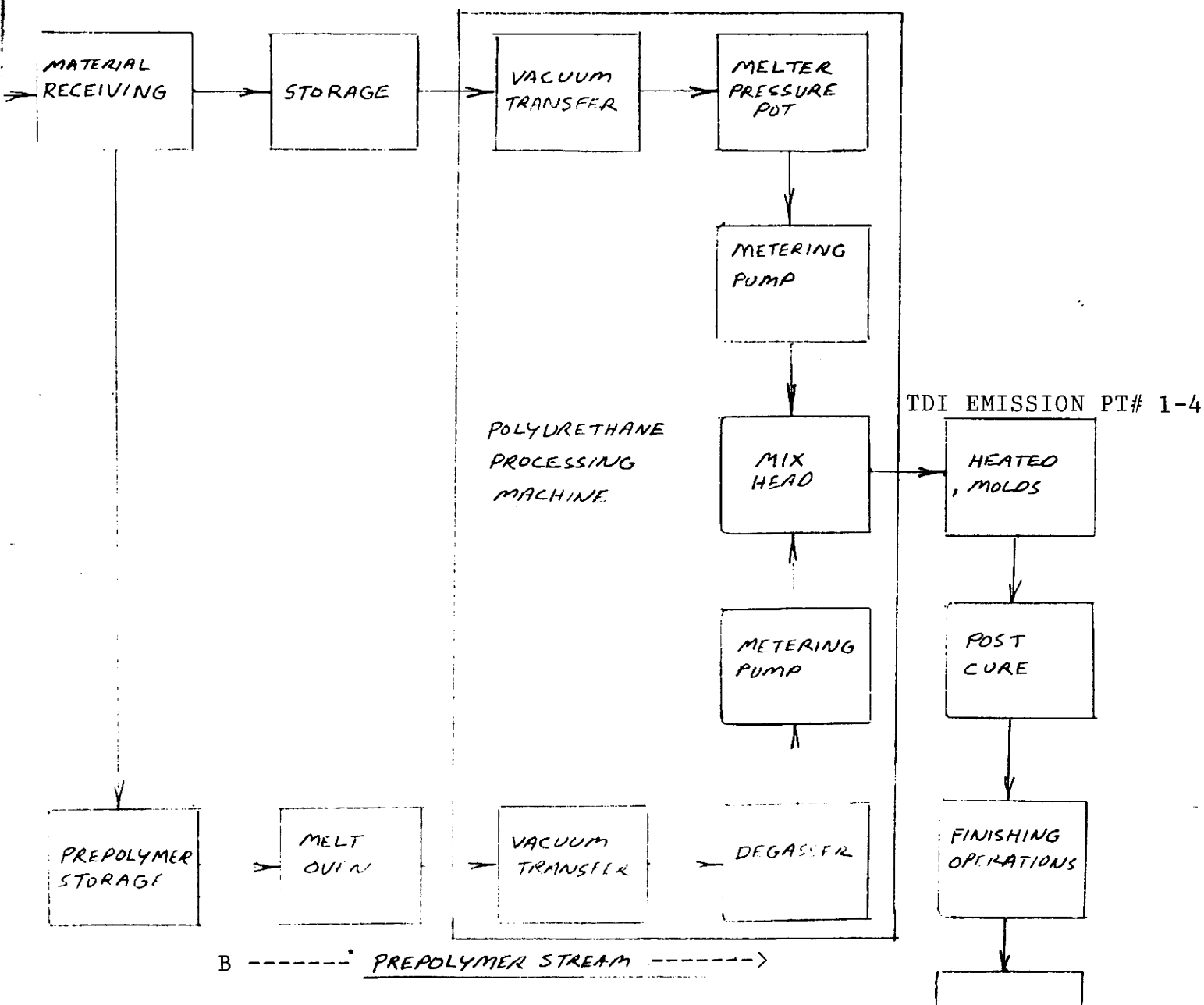
PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

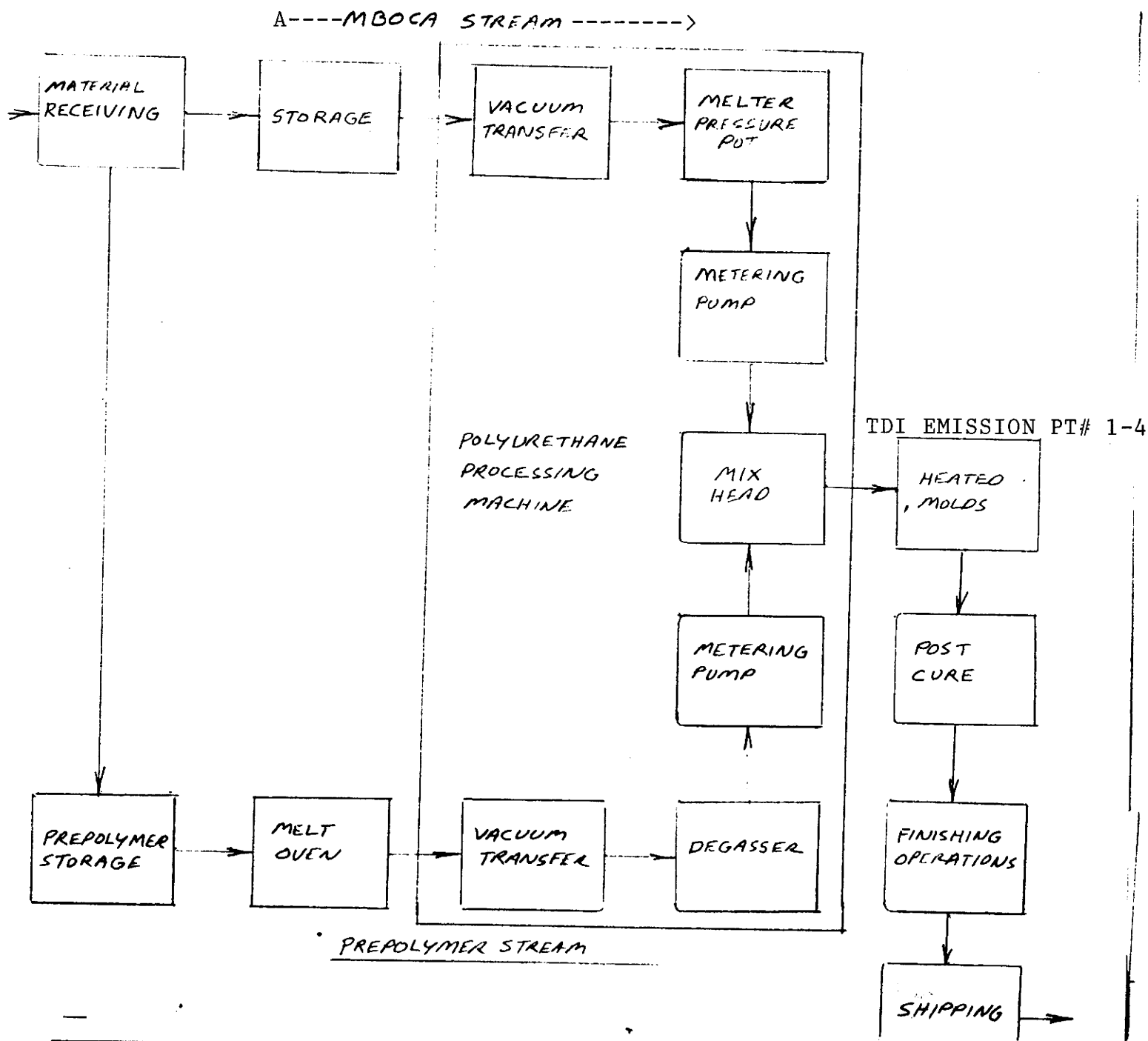
A-----MBOCA STREAM----->



- 7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

[] Process type MACHINE PROCESSING OF LIQUID CAST URETHANE



7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

<u>Unit Operation ID Number</u>	<u>Typical Equipment Type</u>	<u>Operating Temperature Range (°C)</u>	<u>Operating Pressure Range (mm Hg)</u>	<u>Vessel Composition</u>
<u>1</u>	<u>APC#1 TABLE</u>	<u>70° - 120°</u>	<u>711-2063</u>	<u>STEEL</u>
<u>2</u>	<u>APC#2 TABLE</u>	<u>70° - 120°</u>	<u>711-2063</u>	<u>STEEL</u>
<u>3</u>	<u>CONVEYER APC#3 OVEN</u>	<u>70° - 120°</u>	<u>711-2063</u>	<u>STEEL</u>
<u>4</u>	<u>MAX #1 TABLE</u>	<u>70° - 120°</u>	<u>711-2063</u>	<u>STEEL</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

- 7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Process Stream ID Code	Process Stream Description	Physical State ¹	Stream Flow (kg/yr)
1	APC #1 METER/MIX MACH.	OL	2280
2	APC #2 METER/MIX MACH.	OL	2280
3	APC #3 METER/MIX MACH.	OL	2280
4	MAX#1 METER/MIX MACH.	OL	2280

¹Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s).
 If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds ¹	Concentrations ^{2,3} (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
#1A	MBOCA 101-14-4	8-20%	NA	NA
1B	TDI 26471-62-5	2.85 - 7.0%	NA	NA
1B	or Polyester/ Polyether POLYOL	73 - 89%	NA	NA
#2A	MBOCA 101-14-4	8-20%	NA	NA
2B	TDI 26471-62-5	2.85-7.0%	NA	NA
2B	or Polyester/ Polyether POLYOL	73-89%	NA	NA
#3A	MBOCA 101-14-4	8-20%	NA	NA
2B	TDI 26471-62-5	2.85-7.0%	NA	NA
2B	or Polyester/ Polyether Polyol	73-89%	NA	NA

7.06 continued below

#4A	MBOCA 101-14-4	8-20%	NA	NA
4B	TDI 26471-62-5	2.85-7%	NA	NA
4B	or Polyester/ Polyether POLYOL	73-89%	NA	NA

☐ Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

<u>Additive Package Number</u>	<u>Components of Additive Package</u>	<u>Concentrations (% or ppm)</u>
<u>1</u>		
	NA	
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

²Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

³Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

NA

☐ Mark (X) this box if you attach a continuation sheet.

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Type of Hazardous Waste ¹	Physical State of Residual ²	Known Compounds ³	Concentra- tions (% or ppm) ^{4,5,6}	Other Expected Compounds	Estimated Concen- trations (% or ppm)

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

¹Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

²Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

NA

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

N/A

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

<u>Additive Package Number</u>	<u>Components of Additive Package</u>	<u>Concentrations (% or ppm)</u>
<u>1</u>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<u>2</u>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<u>3</u>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<u>4</u>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<u>5</u>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

⁴Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

⁵Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

⁶Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>	<hr/>	<hr/>
<u>2</u>	<hr/>	<hr/>
<u>3</u>	<hr/>	<hr/>
<u>4</u>	<hr/>	<hr/>
<u>5</u>	<hr/>	<hr/>
<u>6</u>	<hr/>	<hr/>

☐ Mark (X) this box if you attach a continuation sheet.

CBI

a.	b.	c.	d.	e.		f.	g.
Stream ID Code	Waste Description Code ¹	Management Method Code ²	Residual Quantities (kg/yr)	Management of Residual (%)		Costs for Off-Site Management (per kg)	Changes in Management Methods
				On-Site	Off-Site		
1-4	B82	ID	0		100%		

[illegible]

²Use the codes provided in Exhibit 8-2 to designate the management methods

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8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐ N/A

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	N/A Air Pollution Control Device ¹	Types of Emissions Data Available
1		
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)

E = Electrostatic precipitator

O = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Work history of individual before employment at your facility	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Sex	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Race	<u>X</u>	<u>X</u>	<u>1970</u>	<u>30</u>
Job titles	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Start date for each job title	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
End date for each job title	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>NA</u>	<u>1988</u>	<u>30</u>
Personal employee monitoring data	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Employee medical history	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Employee smoking history	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Accident history	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Termination date	<u>X</u>	<u>X</u>	<u>1952</u>	<u>30</u>
Vital status of retirees	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Cause of death data	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site use as reactant	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site use as nonreactant	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site preparation of products	Enclosed	<u>9123</u>	<u>11</u>	<u>2080</u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

FOREMAN

B

CAST URETHANE MACHINE OPERATOR

C

CONVEYOR OVEN HELPER

D

E

F

G

H

I

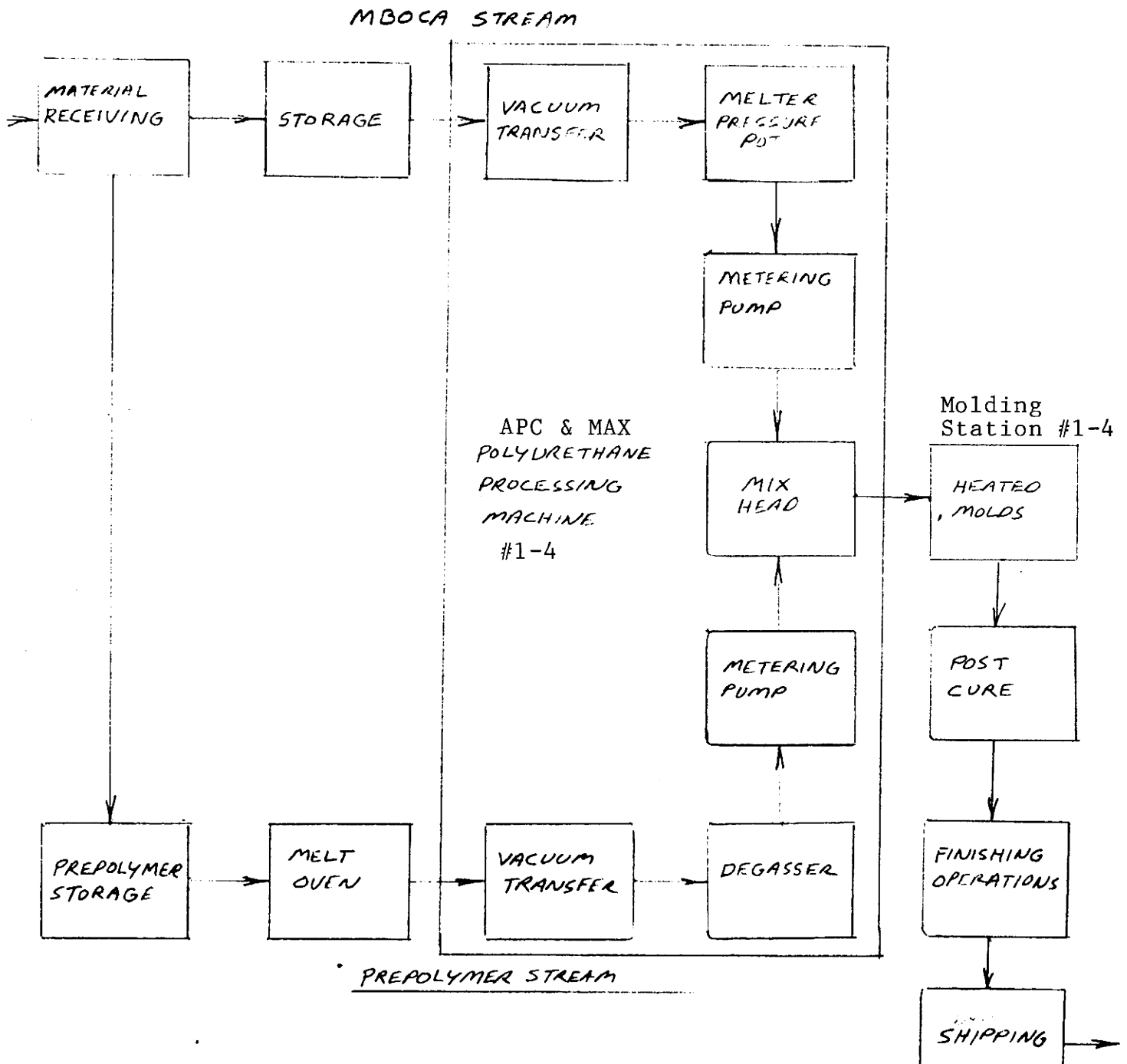
J

☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type MACHINE PDPROCESSING OF LIQUID CAST URETHANE



☐ Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type

Work Area ID

Description of Work Areas and Worker Activities

1	APC #1 MOLDING STATION	WORKERS ASSEMBLE
2	APC #2 MOLDING STATION	MOLDS, OPERATE
3	APC #3 MOLDING STATION	MACHINES, DEMOLD
4	MAX #1 MOLDING STATION	PARTS AT EACH OF THESE
5		WORK STATIONS.
6		
7		
8		
9		
10		

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
B	2	INHALATION	GU	D	250

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 2

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
B	2	INHALATION	GU	D	250

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

- 9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 3

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
B	2	INHALATION	GU	E	250
C	2	INHALATION	GU	A	250
A	1	INHALATION	GU	A	250

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 4

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
B	2	INHALATION	GU	D	250

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m³, other-specify)</u>	<u>15-Minute Peak Exposure Level (ppm, mg/m³, other-specify)</u>
<u>B</u>	<u>< 0.02ppm</u>	<u>< 0.02 ppm</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 2

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m³, other-specify)</u>	<u>15-Minute Peak Exposure Level (ppm, mg/m³, other-specify)</u>
<u>B</u>	<u>< 0.02 ppm</u>	<u>< 0.02 ppm</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
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☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 3

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m³, other-specify)</u>	<u>15-Minute Peak Exposure Level (ppm, mg/m³, other-specify)</u>
<u>B</u>	<u>< 0.02 ppm</u>	<u>< 0.02 ppm</u>
<u>C</u>	<u>< 0.02 ppm</u>	<u>< 0.02 ppm</u>
<u>A</u>	<u>< 0.02 ppm</u>	<u>< 0.02 ppm</u>
<u> </u>	<u> </u>	<u> </u>
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☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 4

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m³, other-specify)</u>	<u>15-Minute Peak Exposure Level (ppm, mg/m³, other-specify)</u>
B	< 0.02 ppm	< 0.02 ppm

☐ Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

☐

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples¹</u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Records Maintained</u>
Personal breathing zone	NA					
General work area (air)	1-4	1	4	D	Y	30
Wipe samples	NA					
Adhesive patches	NA					
Blood samples	NA					
Urine samples	NA					
Respiratory samples	NA					
Allergy tests	NA					
Other (specify)						
Other (specify)						
Other (specify)						

¹Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) TECH. MGR.

☐ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

<input type="checkbox"/> Sample Type	Sampling and Analytical Methodology
DH	COLORMETRIC CHEMCASSETTE DETECTION SYSTEM

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

<input type="checkbox"/> Equipment Type ¹	Detection Limit ²	Manufacturer	Averaging Time (hr)	Model Number
DH	1 pph A	MDA Scientific	8	7100

¹Use the following codes to designate personal air monitoring equipment types:

A = Passive dosimeter

B = Detector tube

C = Charcoal filtration tube with pump

D = Other (specify) Colormetric chemcassette detection system

Use the following codes to designate ambient air monitoring equipment types:

E = Stationary monitors located within work area

F = Stationary monitors located within facility

G = Stationary monitors located at plant boundary

H = Mobile monitoring equipment (specify) Moved to four work stations

I = Other (specify) _____

²Use the following codes to designate detection limit units:

A = ppm

B = Fibers/cubic centimeter (f/cc)

C = Micrograms/cubic meter (μ/m^3)

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

N/A

☐

Test Description

Frequency
(weekly, monthly, yearly, etc.)

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[] Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>1985</u>	<u>N</u>	<u>NA</u>
Other (specify)				
Vessel emission controls	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
Mechanical loading or packaging equipment	<u>Y</u>	<u>1985</u>	<u>N</u>	<u>NA</u>
Other (specify)				

[] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 2

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>1985</u>	<u>N</u>	<u>NA</u>
Other (specify)				
Vessel emission controls	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
Mechanical loading or packaging equipment	<u>Y</u>	<u>1987</u>	<u>N</u>	<u>NA</u>
Other (specify)				

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 3

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>1985</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>1985</u>	<u>n</u>	<u>NA</u>
Other (specify)				
<hr/>				
Vessel emission controls	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
Mechanical loading or packaging equipment	<u>Y</u>	<u>1987</u>	<u>N</u>	<u>NA</u>
Other (specify)				
<hr/>				

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 4

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>1985</u>	<u>N</u>	<u>NA</u>
Other (specify)				
<hr/>				
Vessel emission controls	<u>N</u>	<u>NA</u>	<u>N</u>	<u>NA</u>
Mechanical loading or packaging equipment	<u>Y</u>	<u>1988</u>	<u>N</u>	<u>NA</u>
Other (specify)				
<hr/>				

☐ Mark (X) this box if you attach a continuation sheet.

9:13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1-4

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
N/A	

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[] Process type _____

Work area

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	N
Safety goggles/glasses	Y
Face shields	N
Coveralls	N
Bib aprons	N
Chemical-resistant gloves	N
Other (specify)	
<u>UNIFORMA</u>	Y

☐ Mark (X) this box if you attach a continuation sheet.

- 9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

N/A					
Work Area	Respirator Type	Average Usage ¹	Fit Tested (Y/N)	Type of Fit Test ²	Frequency of Fit Tests (per year)
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

¹Use the following codes to designate average usage:

A = Daily
B = Weekly
C = Monthly
D = Once a year
E = Other (specify) _____

²Use the following codes to designate the type of fit test:

QL = Qualitative
QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1-4

Worker hazardous chemical training program

Workplace monitoring

Safety committee meetings biweekly

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Work area 1-4

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming	X			
Water flushing of floors	X			
Other (specify)				
SCRAPING		X		

☐ Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

N/A

Yes 1

No 2

Emergency exposure

Yes 1

No 2

If yes, where are copies of the plan maintained?

Routine exposure: _____

Emergency exposure: _____

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes (1)

No 2

If yes, where are copies of the plan maintained? WITH MSDS INFORMATION

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes (1)

No 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist (1)

Insurance carrier 2

OSHA consultant 3

Other (specify) _____ 4

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 10 ENVIRONMENTAL RELEASE

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

- ☐ Industrial area ①
- Urban area 2
- Residential area ③
- Agricultural area 4
- Rural area 5
- Adjacent to a park or a recreational area 6
- Within 1 mile of a navigable waterway ⑦
- Within 1 mile of a school, university, hospital, or nursing home facility ⑧
- Within 1 mile of a non-navigable waterway 9
- Other (specify) _____ 10

☐ Mark (X) this box if you attach a continuation sheet.

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude 42 ° 32 ' "

Longitude 88 ° 27 ' "

UTM coordinates Zone _____, Northing _____, Easting _____

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

N/A

Average annual precipitation inches/year

Predominant wind direction

10.04 Indicate the depth to groundwater below your facility. N/A

Depth to groundwater meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of CBI Y, N, and NA.)

☐

On-Site Activity

Environmental Release

Air

Water

Land

Manufacturing

NA

NA

NA

Importing

NA

NA

NA

Processing

Y

N

N

Otherwise used

N

N

N

Product or residual storage

N

N

N

Disposal

N

N

N

Transport

N

N

N

☐ Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air	105	kg/yr ± 10 %
Quantity discharged in wastewaters	NA	kg/yr ± ____ %
Quantity managed as other waste in on-site treatment, storage, or disposal units	NA	kg/yr ± ____ %
Quantity managed as other waste in off-site treatment, storage, or disposal units	NA	kg/yr ± ____ %

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
NA	NA	NA

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Point Source
ID Code

Description of Emission Point Source

1

mix head/mold table

2

mix head/mold table

3

mix head/mold table/conveyor

4

mix head/mold table

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics -- Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

<input type="checkbox"/> Point Source ID Code	Physical State ¹	Average Emissions (kg/day)	Frequency ² (days/yr)	Duration ³ (min/day)	Average Emission Factor ⁴	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
1	V	.07	250	280	.011	.018	7000	10
2	V	.07	250	280	.011	.018	7000	10
3	V	.21	250	7200	.011	.018	1000	180
4	V	.07	250	280	.011	.018	7000	10

¹Use the following codes to designate physical state at the point of release:
G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

²Frequency of emission at any level of emission

³Duration of emission at any level of emission

⁴Average Emission Factor -- Provide estimated (\pm 25 percent) emission factor (kg of emission per kg of production of listed substance)

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) ¹	Building Width(m) ²	Vent Type ³
3	12	.9	30°C	NA	11	23	V

¹Height of attached or adjacent building

²Width of attached or adjacent building

³Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source.

CBI

☐

N/A

Point source ID code

Size Range (microns)

Mass Fraction (% \pm % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

- 10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type MACHINE PROCESSING OF LIQUID CAST URETHANE

Percentage of time per year that the listed substance is exposed to this process type 100 %

N/A MIXTURE

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					
	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals ¹						
Packed						
Mechanical						
Double mechanical ²						
Compressor seals ¹						
Flanges						
Valves						
Gas ³						
Liquid						
Pressure relief devices ⁴ (Gas or vapor only)						
Sample connections						
Gas						
Liquid						
Open-ended lines ⁵ (e.g., purge, vent)						
Gas						
Liquid						

¹List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

²If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

³Conditions existing in the valve during normal operation

⁴Report all pressure relief devices in service, including those equipped with control devices

⁵Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

☐

N/A MIXTURE^a.

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel ¹	c. Control Device	d. Estimated Control Efficiency ²
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

¹Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

²The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI N/A

☐ Process type

<u>Equipment Type</u>	<u>Leak Detection</u>	<u>Detection Device¹</u>	<u>Frequency of Leak Detection (per year)</u>	<u>Repairs Initiated (days after detection)</u>	<u>Repairs Completed (days after initiated)</u>
	<u>Concentration (ppm or mg/m³) Measured at _____ Inches from Source</u>				
Pump seals					
Packed					
Mechanical					
Double mechanical					
Compressor seals					
Flanges					
Valves					
Gas					
Liquid					
Pressure relief devices (gas or vapor only)					
Sample connections					
Gas					
Liquid					
Open-ended lines					
Gas					
Liquid					

¹Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

- 10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

N/A														
Vessel Type ¹	Floating Roof Seals ²	Composition of Stored Materials ³	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls ⁴	Design Flow Rate ⁵	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate ⁶	

¹Use the following codes to designate vessel type:

F = Fixed roof
 CIF = Contact internal floating roof
 NCIF = Noncontact internal floating roof
 EFR = External floating roof
 P = Pressure vessel (indicate pressure rating)
 H = Horizontal
 U = Underground

²Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary
 MS2 = Shoe-mounted secondary
 MS2R = Rim-mounted, secondary
 LM1 = Liquid-mounted resilient filled seal, primary
 LM2 = Rim-mounted shield
 LMW = Weather shield
 VM1 = Vapor mounted resilient filled seal, primary
 VM2 = Rim-mounted secondary
 VMW = Weather shield

³Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

⁴Other than floating roofs

⁵Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

⁶Use the following codes to designate basis for estimate of control efficiency:

C = Calculations
 S = Sampling

PART E ~~NON~~-ROUTINE RELEASES

- 10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases. N/A

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
<u>1</u>	_____	_____	_____	_____
<u>2</u>	_____	_____	_____	_____
<u>3</u>	_____	_____	_____	_____
<u>4</u>	_____	_____	_____	_____
<u>5</u>	_____	_____	_____	_____
<u>6</u>	_____	_____	_____	_____

- 10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
<u>1</u>	_____	_____	_____	_____	_____
<u>2</u>	_____	_____	_____	_____	_____
<u>3</u>	_____	_____	_____	_____	_____
<u>4</u>	_____	_____	_____	_____	_____
<u>5</u>	_____	_____	_____	_____	_____
<u>6</u>	_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.



AIRBILL

USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE
TRACKING NUMBER

3711381715

3711381715

RECIPIENT'S COPY

From (Your Name) Please Print Tom J.		Your Phone Number (Very Important) (414) 248-4481		To (Recipient's Name) Please Print Chair Reporting Office		Recipient's Phone Number (Very Important)	
Company ALBERT TROSTEL PACKINGS LTD.		Department/Floor No.		Company U.S. Environmental Protection Agency		Department/Floor No.	
Street Address 901 MAXWELL ST.				Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 401 M Street, S.W.			
City LAKE GENEVA		State WI		City Washington		State DC	
ZIP Required 53147				ZIP Required 20460			

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)

IF HOLD FOR PICK-UP, Print FEDEX Address Here

PAYMENT ☐ Bill Sender ☐ Bill Recipient's FedEx Acct. No. ☐ Bill 3rd Party FedEx Acct. No. ☐ Bill Credit Card
☐ Cash

Street Address

City

State

ZIP Required

SERVICES

DELIVERY AND SPECIAL HANDLING

PACKAGES

WEIGHT
IN POUNDS
ONLYYOUR DECLARED
VALUEOVER
SIZE

Emp. No.

Date

Federal Express Use

- 1 ☐ **PRIORITY 1**
Overnight Delivery
- 2 ☒ **COURIER-PAK**
OVERNIGHT ENVELOPE*
- 3 ☐ **OVERNIGHT BOX**
- 4 ☐ **OVERNIGHT TUBE**
- 5 ☐ **STANDARD AIR** Delivery
not later than
second business day
- 6 ☐ **OVERNIGHT LETTER***
- 8 ☐
- 9 ☐
- 10 ☐

- 1 ☐ **HOLD FOR PICK-UP** (Fill in Box H)
- 2 ☒ **DELIVER WEEKDAY**
- 3 ☐ **DELIVER SATURDAY** (Extra charge)
- 4 ☐ **DANGEROUS GOODS** (Extra charge)
- 5 ☐ **CONSTANT SURVEILLANCE SERVICE (CSS)** (Extra charge) (Release Signature Not Applicable)
- 6 ☐ **DRY ICE** Lbs.
- 7 ☐ **OTHER SPECIAL SERVICE**
- 8 ☐
- 9 ☐ **SATURDAY PICK-UP** (Extra charge)
- 10 ☐
- 11 ☐
- 12 ☐ **HOLIDAY DELIVERY** (If offered) (Extra charge)

Total	Total	Total	Total	Total
Received At 1 <input type="checkbox"/> Regular Stop 2 <input type="checkbox"/> On-Call Stop 3 <input type="checkbox"/> Drop Box 4 <input type="checkbox"/> B.S.C. 5 <input type="checkbox"/> Station				
FEDEX Corp. Employee No.				
Date/Time for FEDEX Use				

☐ Cash Received

☐ Return Shipment

☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold

Street Address

City State Zip

Received By:
X

Date/Time Received FedEx Employee Number

Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

Release Signature:

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

PART #111800
REVISION DATE 10/88
PRINTED IN U.S.A. FXEM

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